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GEOGRAPHIC SCHOOL BULLETINS

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

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C. H. Kragh

A FLAT-FEATURED DAUGHTER OF JAPAN TOILS FOR HER LORD AND MASTER

Woman's role in the present-day economic structure of Nippon is to perform the back-breaking labor of the household. She is a mere property of her husband. This one, wrinkled and aged beyond her years, brings home a heavy load of weeds for the fire. Her only hope is to grow old, attain the station of an elder in the family, and then, in accordance with the strict class system still prevalent in Japan, she can demand attention from her children and grandchildren (Bulletin No. 3).

GEOGRAPHIC SCHOOL BULLETIN

HOW TEACHERS MAY OBTAIN THE BULLETINS

The Geographic School Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers in the United States and its possessions for one year upon receipt of 25 cents (stamps or money order); in Canada, 50 cents. Originally entered as second-class matter January 27, 1922; re-entered as of April 27, 1943, Post Office, Washington, D. C., under Act of March 3, 1879. **Copyright, 1945, by National Geographic Society, Washington 6, D. C. International copyright secured. All rights reserved. Quedan reservados todos los derechos.**

To Outsiders, Thailand Is Once More Siam

ONCE again Thailand is Siam to foreigners.

The change in national name from Thailand to Siam recently ended a designation that had been in effect since 1939. The name "Siam" or "Syam" has endured through many centuries, though to the people themselves the country retains the name Muang Thai, Land of the Free.

Siam traces its history to the Lao-Tai tribesmen driven from their homes in China's Yangtze Valley by Kublai Khan. These fugitives took root in northern India, in eastern Burma, and in the valleys of the Salween and other rivers. Fusion with other peoples produced the race that has ruled Siam since the founding in 1350 at Ayutthaya (Ayudhya) of the first capital of the Siamese kingdom. Until 1767, when invading Burmese conquered and razed the city, Ayutthaya was the seat of government. Bangkok (Krung Thep) was made the capital in 1782.

British and French Colonial Power Bracketed Siam

Wars with neighboring Cambodia were spread over four centuries. Burmese frequently invaded Siam during the 15th and 16th centuries. Friction caused by trade rivalries brought a threat of war by Boston-born, English-trained Elihu Yale, the man after whom Yale University is named, then in charge of the British East India Company's post at Madras.

The development of British power in Burma and the expansion of French colonial interest in Indochina served to protect Siam from her old enemies, but boundary squabbles with the French cost Siam considerable territory. Siam's independence was guaranteed by Great Britain and France in an 1896 agreement. Bracketed between the European colonies, Siam has an area three-fourths as large as Texas. The country's tail hangs down the Malay Peninsula, giving Siam an Indian Ocean frontage.

As a result of the seizure of power by the premier, Siam made an alliance with Japan in December, 1941. In January, 1942, the new government declared war on Great Britain and the United States. Postwar reports have indicated that virtually the entire Siamese Government, however, worked secretly for the United Nations, constituting a listening post inside Japan's "co-prosperity sphere."

Much of life in Siam is still lived by traditional patterns, and old practices have survived the revising touch of change and progress. Rice fields are cultivated in the age-old way; the kernels are husked mortar-and-pestle fashion. Irrigation is accomplished by bucket-bearing water wheels. Boat dwellers live out their lives on canals. Yellow-robed Buddhist priests collect their alms of food.

Chinese Are the Nation's Shopkeepers

Women carry fruits and vegetables to distant markets in baskets slung from bamboo poles balanced on their shoulders. Cattle caravans freight farm produce to hungry cities. Elephants skid logs from teak forests to near-by streams, and break log jams with their powerful trunks. Floating grocery stores offer their wares along busy waterways.

Before the war, modern trends were most evident in Bangkok, a city of about 750,000 prewar inhabitants—large enough to contain both old and new, traditionalism and modernism, side by side. Railways connected it with Singapore, French Indochina cities, and the Burma system.

A land of nearly 16,000,000 people, mostly Siamese, Siam includes many

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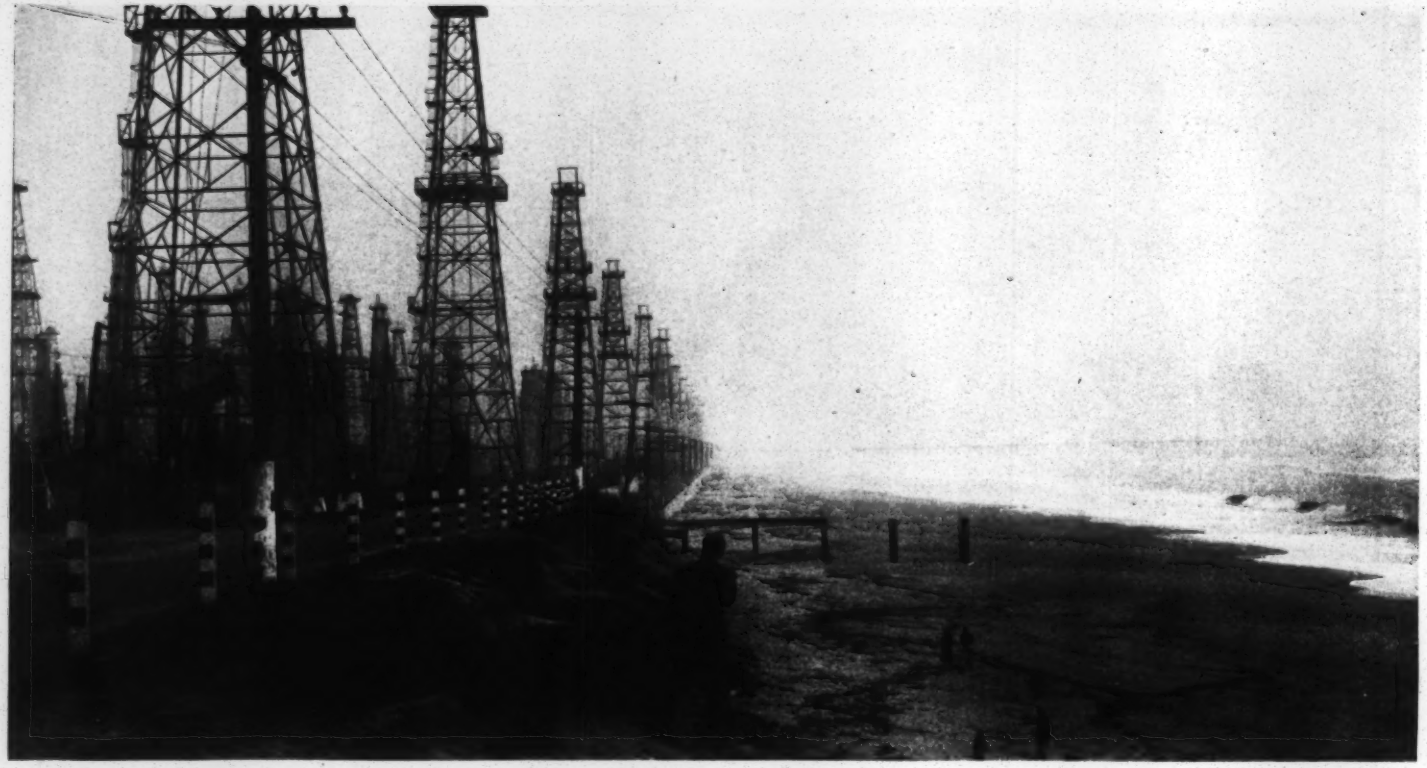

B. Anthony Stewart

JUST AS THESE DERRICKS SEEM TO MARCH TO SEA, OIL DEPOSITS, GEOLOGISTS BELIEVE, MAY EXTEND FAR UNDER THE WATER

On Huntington Beach, California, these steel towers pump petroleum from oceanside wells. At other points off southern California and along the Gulf of Mexico coast, derricks are actually built over the water. Possible rich oil deposits far offshore are now United States property as the result of President Truman's September 28 proclamation concerning the resources of the sea bed and subsoil of the continental shelf (Bulletin No. 4).

GEOGRAPHIC SCHOOL BULLETIN

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General Headquarters, Washington 6, D. C.

Denmark's Farms Can Feed Free Men Again

DENMARK, after five years of German occupation, is free to take up again its normal agricultural ways. This peaceable little country had a reputation for successful living entirely out of proportion to its size.

The oldest kingdom in Europe, Denmark has long been noted for social progress. Extremes of wealth and poverty were rare. Illiteracy did not exist. Security in old age, sickness, and unemployment was provided by law.

Denmark is governed under a liberal constitutional monarchy. The king is the executive authority and he shares legislative responsibility with the Rigsdag —the elective parliament of 225 members.

Surrounding Seas Give Denmark a Mild Climate

The country has an area of 16,575 square miles—slightly larger than Switzerland, less than half the size of Indiana. Its population of about 3,800,000—fewer than 200 per square mile—is roughly half that of greater New York City.

Denmark is made up of the Peninsula of Jutland, which extends northward from the mainland of Europe, and some 500 islands of which about 100 are inhabited. The land is interlaced and all but surrounded by the sea. No interior point is more than 40 miles from the coast. For this reason the average yearly temperature (45 degrees Fahrenheit) is higher than that of most larger countries in the same latitude. Although the summers are cool, the winters are very mild.

The majority of the people live on the fertile islands in the Baltic east of Jutland. On the east coast of Sjælland (Zealand) Island, only 17 miles by ferry from Malmö, Sweden, stands the capital, Copenhagen (København, meaning "Merchant's Haven"). Before the war more than a fourth of Denmark's population lived there. It is the political and social heart of the country as well as the only big city. The streets in the old part of the city are so narrow and crooked that in normal times bicycles and vehicular traffic are barred from ten a.m. to ten p.m. Broad streets and statue-dotted parks surround this ancient center. The innumerable spires and towers of palaces, churches, museums, and government buildings draw a skyline typical of Danish architecture.

Like New York, Copenhagen occupies less space than its population indicates. It has expanded skyward into tall apartment houses, in which live about 90 per cent of the residents. Peacetime Copenhagen was one of Europe's gayest capitals, a city of diners-out and amusement-seekers. Nearly a half-million people—from delivery boys to diplomats—swarmed the streets on bicycles.

The Danes Make the Most of Their Limited Land

The country has little coal and iron; it lacks petroleum, water power, and raw materials for extensive industry, although kaolin found on Bornholm is used in Denmark's famous porcelain. There is relatively little fertile land. Along the west coast of Jutland are shifting sand dunes and wide regions of barren heath and boggy moor. Yet so well have the Danes cultivated their available land that they are a conspicuous example of what can be accomplished in spite of limited area and few natural resources. Jutland wasteland has been reclaimed by drainage canals and forestation. Much of Denmark's success is due to the efficient organization of the cooperative groups in farming and industry.

Prewar Denmark was a leading exporter of dairy products. The British Isles took more than half the output, which was shipped chiefly from Esbjerg, on the

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Chinese, East Indians, and Malayans. Chinese business concerns and shops are numerous. The chief activities of the Siamese are farming and fishing—about four in five make their living from those occupations. Government activities normally employ a considerable number. Possibly one in fifty has a regular job in an industry. Some women keep stores.

Buddhism is the principal religion. It is a tradition for men to enter the priesthood, but few devote their lives to it. Monasteries are popularly regarded as places to get the three R's along with religious training. Primary education was made compulsory before the war. The Siamese, fond of games of chance, like to pit toy fish against each other, and to engage in kite battles. Nearly everyone chews betel nuts.

Rice is Siam's foremost crop. Normal yields run above 4,000,000 tons a year, enough for home needs and for a thriving export trade. For natural wealth Siam looks to its teak forests, and its treasures of tin, tungsten, gold, silver, coal, lead, antimony, and copper. Other resources include rubies, sapphires, and plantation rubber.

Home of fantastic temples (illustration, below), medieval pageants, and medicines made from deerhorns and snake galls, fabulous Siam lends itself easily to popular fallacies—the so-called white elephant is not white, but albino; many straw hats represented as "made in Bangkok" were fashioned elsewhere; and the much-publicized Siamese twins were born of Chinese parents.

America has touched Siam in many ways. Missionaries introduced the practice of medicine and of progressive schools. Americans brought the first printing press to Siam.

Maynard Owen Williams

A STYLIZED LION, CROUCHED AND GRINNING, GUARDS A SIAM TEMPLE

More than 18,000 shrines serve this nearly 100-per-cent Buddhist country. The temple in the background is Beuchamabopitr, whose overlapping eaves and serpentlike gable markers are a Bangkok wonder.

Note: Siam appears on the Society's Map of Southeast Asia. A price list of maps may be obtained from the Society's headquarters, Washington 6, D. C.

See also "Temples and Guns in Thailand" in the *National Geographic Magazine* for November, 1941*. (*Issues marked with an asterisk are included in a special list of Magazines available to teachers in packets of ten for $1.00.*)

Bulletin No. 1, Nov. 5, 1945.

GEOGRAPHIC SCHOOL BULLETIN

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Feudalism Thrives Behind the Mask of "Modern" Japan

CORRESPONDENTS writing from Japan have often relied on the handy words "feudal" and "medieval" to picture Japanese customs, attitudes, and institutions. To Americans the words recall a distant time in their European background which nearly 500 years ago began to fade before the dawn of a "modern" period. They suggest outworn and outmoded ideas, discarded and thrown on history's junk pile.

How "feudal" is "modern" Japan? A brief review of Japanese history will help in finding the answer. Nearly 500 years ago these island people had developed a military feudalism of warrior lords and peasant serfs which closely resembled Europe's. In the late 1500's European traders and priests penetrated Japan's shell, but were later expelled. By 1615 foreign influence was wiped out, and Japan withdrew into a shell of isolationism for almost 250 years.

Class System Still in Force

While the West generally discarded its medieval trappings, Japan under the shoguns (military governors) of the Tokugawa family strengthened and preserved its feudal customs. This period, which saw the formation of much of the form and spirit of "modern" Japan, may be said to have ended with Commodore Matthew C. Perry's opening of the country only 92 years ago.

Under the Emperor Meiji (1868-1912) Japan became a quick-change artist, miraculously transforming itself from a small, backward Oriental country to a world power. On the surface the change was remarkable; behind the mask the features changed very little. The features were those of the Tokugawa period, with an emperor, rather than a shogun, at the top of a stratified society.

Japanese society retains to this day its almost rigid class system, which became well set 300 years ago. Its main divisions are easily recognized: the royal family; beneath them, the samurai warrior-nobility; finally the masses of laborers and farmers. Bushido, the medieval "way of the warrior" which teaches abject loyalty to superiors, selflessness, and thrift, has become the nation's way of life. Japanese soldiers, laborers, and farmers are taught strict obedience to their betters from childhood. Military leaders, complete with samurai sword, are revered by the nation and are the direct descendants of medieval lords. The common man exists only as a creature of the state.

In feudal Japan people's loyalty was divided among nearly 300 clans, each made up of small family units. From these clans stems a group consciousness peculiarly Japanese. The Japanese do not exist or think as individuals, but as members of groups—family, neighborhood association, military unit, or nation. With beelike instinct they swarm together, while their feudal loyalties have been fused and transformed into an intense and burning nationalism.

Big Business Took Feudal Shape under Powerful Families

The shoguns, real bosses of feudal Japan, developed an elaborate system of spies and police to keep the nobles in check. Recent Japanese governments have continued this handy tradition and have controlled every thought and action of the people. Japanese have been probably more closely regulated than any other people. Government regulation, backed by plainclothes agents and "thought control" police, molded a nation of "think-alikes" and dictated the smallest details of everyday life. Medieval regulation was refined to suit the need of the totalitarian state.

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west coast, across the North Sea to Harwich. Under German occupation, confiscation of supplies and loss of feed imports caused acute food shortages in this land of traditional good meals.

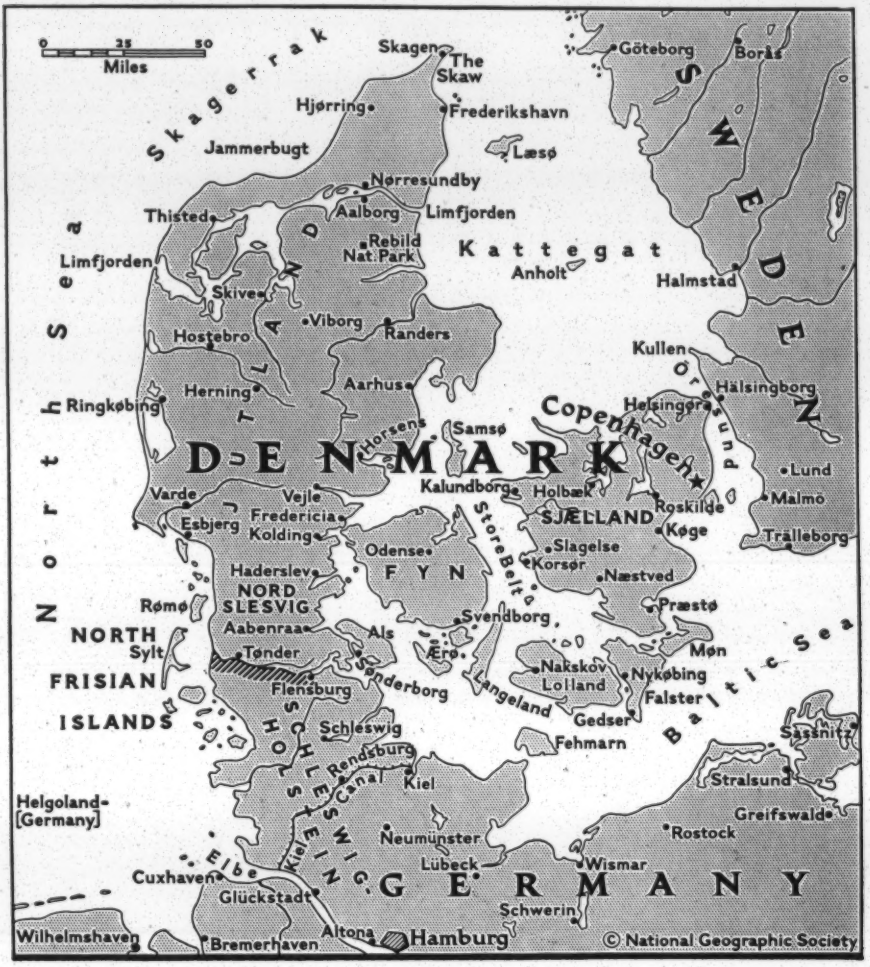
Denmark fishes as well as farms. It had an extensive peacetime sea trade. Shipbuilding was an important industry. The Danes ranked fourth among the world's prewar shipbuilders following on the heels—or sterns—of Britain, Germany, and Japan. They pioneered in adapting the Diesel engine to marine use.

Although the land is uniformly low—less than 600 feet at top level—the scenery is varied. Neat cobblestone villages, flowering heath, and billowing sand dunes suggest picture post cards; fjords contrast with tree-framed lagoons; fishing villages and red-roofed, whitewashed farmhouses are reminiscent of travel folders. Hans Andersen of fairy tale fame was born on Fyn (Fünen). Elsinore (Helsingør) Castle, near Copenhagen, figures in Hamlet.

Note: Denmark appears on the Society's Map of Europe and the Near East.

For further information, see "Bornholm—Denmark in a Nutshell," in the *National Geographic Magazine* for February, 1945; "On Danish By-Lanes," January, 1940*; and "Royal Copenhagen, Capital of a Farming Kingdom," February, 1932*.

Bulletin No. 2, November 5, 1945.



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General Headquarters, Washington 6, D. C.

Continental Shelf Adds Riches of Huge Area to Nation's Wealth

WITH a stroke of the pen, without bloodshed, and without stepping on any other nation's toes, President Truman recently added to the outright possession of the United States an area equal to three Texases. This new territory is the continental shelf, the offshore underwater continuation of the North American mainland.

The President's proclamation relates only to the international aspect of the problem and does not touch the current "tidelands" dispute between individual states and the Federal Government as to the ownership of areas between the low-water mark and the three-mile limit.

The immediate reason for the government's action in staking claim to the continental shelf is oil. For years oil has been pumped from submerged wells off southern California (illustration, inside cover) and the Gulf coast, and petroleum geologists believe the deposits may extend far to sea. With improving techniques, engineers foresee the possibility of drilling wells in ever deeper water. Other minerals the ocean floor may yield are sulphur and little-known monazite, ilmenite, zircon, and rutile.

World's Surplus Water Spills over on Continents

A good way to picture the continental shelf is to imagine a profile drawing of the ocean with one line representing the surface and another, the bottom. Starting at the shore, the line showing the ocean floor gradually slopes downward until it reaches a point representing 600 feet under water. There it drops suddenly to great depths, creating a giant submerged step—the edge of the continental shelf. In effect, this drop-off point, though it may be 100 miles at sea, is the edge of the land mass of the continent (map, next page).

A simple explanation for the submerged platform around continents is that too much water lies in the oceans and some of it laps over on the land. The underwater shelf displays its affinity to the continent by continuing some of the features of dry land. The edge of the shelf is often rough and uneven like the land, while the ocean basins are believed to be fairly level. Deep canyons sometimes split the continental shelf or furrow its edges. The Hudson Canyon, for instance, appears to be a continuation of the Hudson River Valley. If above water, it would look as stupendous as the Grand Canyon of the Colorado, being not quite so deep, but with much steeper sides.

This new, potentially rich territory of the United States varies greatly in width. The 600-foot depth limit specified by the President is in some cases only a few miles offshore, while in others it is several score miles out. The average width of the shelf off different coasts is: Atlantic, 73 miles; Gulf of Mexico, 60 miles; Pacific, 18 miles; Bering Sea, 47 miles; and Arctic Ocean, 105 miles. The boundary between Soviet Russia and Alaska is fixed by treaty.

Altogether, this area added to continental United States and Alaska totals an estimated 758,600 square miles. Along the Atlantic coast, the continental shelf bulges out to include 128,600 square miles, equal to the combined areas of the six New England States, plus New York, New Jersey, and Maryland. The Gulf of Mexico's shelf adds up to 111,000 square miles, more than equal to two Floridas.

Cannon Range Fixed Three-Mile Limit

The oil-rich Pacific shelf, lying off California, Oregon, and Washington, is narrow, but added to the underwater projection into the Pacific off Alaska and the Aleutians makes a total of 117,500 square miles, about three-fourths the area of California. Alaska's Bering Sea shelf is the largest of the various divisions, with 287,000 square miles. In the Arctic Ocean north of Alaska 114,500 square miles of sea bottom are included. Together these two regions compare to two-thirds of Alaska's dry-land area.

The President's proclamation lays claim only to the natural resources of the sea bed and subsoil of the continental shelf and specifically does not alter "the character as high seas of the water above" the shelf. The right to the continued free and unimpeded use of these waters (outside the traditional three-mile limit) is not affected.

The extent of jurisdiction over the sea is an age-old question. Maritime nations by common consent have in general accepted the offshore limit of their authority as about three miles measured from the low-water line. This three-mile limit was recognized in the belief that it marked the extreme range of coast-defense guns. As the range of cannon increased, some efforts were made to widen the coastal belt of protected water.

The State of Louisiana has offered to lease oil lands as far as 27 marine miles from the

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When the machine age engulfed Japan, big business characteristically took a feudal shape. Organized largely with government aid, it grew into large units headed by prominent families. Control became almost hereditary, and names like Mitsui and Mitsubishi dominated the economy of Japan. Even so, business leaders are handicapped by medieval prejudice and have much less power than the military. The medieval mind exalts the warrior and scorns the business man.

In many ways the Japanese mind is a slave to the power of darkness and superstition. Almost all Japanese believe in the power of charms and talismans, in the existence of dragons and superbeings, in the power of the dead over the living. The Jap soldier's mind is crammed with superstitions, topped by the belief that by death in combat he becomes a god.

Japan's ruthlessness stems from a medieval tradition of brutality. The art, literature, and life of the people give free vent to savagery—if used for the "proper" purposes. Japan's favorite play, *The 47 Ronin* (illustration, below), is a bloody story of murder, suicide, and revenge which teaches submission of all feeling and virtue to unswerving loyalty.

The Japanese woman lives in spiritual shackles made largely in the Tokugawa period. Her social position is low; she has no legal or political rights. Taught humility and obedience from infancy, she is her husband's property. Old custom dictates that she is servant, drudge (illustration, cover), and household mistress.

Masao Horino

INNOCENT BOYS PARADE AS JAPAN'S GORY "47 RONIN"

This popular Japanese play teaches selfless loyalty to leaders. The lord of the 47 *ronin*, insulted in the shogun's palace, drew his sword to defend his honor. For this sacrilege, he had to commit *hara-kiri*. His followers killed the man who had insulted him, then committed mass *hara-kiri* at their leader's grave.

To unify the nation Japanese leaders went history one better and 80 years ago adopted emperor-worship. Europeans must go back nearly 2,000 years to Roman times to find a similar parallel in their own history. A mythology comparable to the Greeks' of 2500 years ago supports the divine origin of Hirohito. For centuries this mythology was not taken seriously by the Japanese, but "modern" Japan has used it as a device to breed national obedience and patriotism. From it comes the fantastic belief that the Nipponese are a superior race destined to rule the world.

Note: See also "Behind the Mask of Modern Japan," in the *National Geographic Magazine* for November, 1945.

Bulletin No. 3, November 5, 1945.

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Geo-Graphic Brevities

MANGOSTEEN, FRUIT DELICACY OF FAR EAST, MAKES DEBUT IN U. S.

FIFTY years ago Dr. David Fairchild, author of "The World Is My Garden," and special agricultural explorer for the U. S. Department of Agriculture, tasted a mangosteen in the famous gardens of Buitenzorg, Java, pronouncing it the most delicate of all the fruits he had ever eaten. Dr. Fairchild determined that upon his return to Washington he would make every effort to establish mangosteen orchards in tropical America.

Now, half a century later, success has crowned his efforts. In the Fairchild Tropical Garden in Coconut Grove, Florida, Dr. Fairchild was host last summer at the first mangosteen party ever held in the United States. The mangosteens were grown commercially in an orchard in Lancetilla Valley, Honduras. Dr. Fairchild decided to give the party when he sampled an advance shipment of the fruit, sent to his Coconut Grove home by air, direct from the Honduras orchard.

The mangosteen, about the size of a mandarin orange, is a well known East Indian delicacy. Its thick, red-purple rind encloses a juicy flesh of a texture so delicate it seems to melt in the mouth. The flavor suggests both the peach and the pineapple.

So favorable had its reputation been that Queen Victoria is said to have offered ten pounds sterling for the first fruits which should be brought to her from the East.

The mangosteen tree, from 25 to 30 feet high, with dense, dark green foliage, looks somewhat like the rubber tree. It grows slowly and does not come into fruit in the East until it is eight or nine years old. In Ceylon the trees bloom twice—in August and January. In the Netherlands Indies, Java and Sumatra especially, it is planted by the natives in their *kampongs* as a dooryard tree.

Wilson Popenoe, formerly of the Office of Plant Introduction of the Department of Agriculture, and now an officer of a private fruit company, started collecting seeds for the Honduras mangosteen orchard in 1926. He found a single tree on the shore of Lake Izabal in Guatemala, and took from it all the seeds he could. He imported other seeds from Cochin China. When Dr. and Mrs. Fairchild were on the Allison-Armour Expedition in the Netherlands Indies in 1926, they found superb fruit on Penang Island, Straits Settlements, and sent a quantity of seeds to Mr. Popenoe from there.

From these seeds has grown an orchard of 700 trees which came into bearing last year and produced 30 tons of mangosteens.

* * * * *

REELFOOT LAKE, WHICH LURED PRESIDENT, WAS FASHIONED BY EARTHQUAKES

REELFOOT Lake, Tennessee's great fishing center where President Truman did *not* go fishing while recently spending a day in a rustic lodge on its banks, is the result of earthquakes that occurred in the winter of 1811-1812. The Mississippi flowed backwards to fill the cavity caused by the tremors.

Lying in the northwest corner of the state, near the Mississippi River and close to the Kentucky line, the lake is about 14 miles long, one to four miles wide, and only two to nine feet deep. Between lake and river is the town of Tiptonville. Across the state line north of the lake, topping a 300-foot bluff on the Mississippi, is Hickman, Kentucky. Down the river several miles lies Caruthersville, Missouri,

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shore in the Gulf of Mexico, taking the position that modern artillery can fire projectiles for that distance, and that a state can now make its authority effective that far. Appearance of the far-flying bomber as a coast-defense weapon has added a further complication to the observance of the traditional extent of territorial rule.

Exceptions to the three-mile rule are to be noted in Denmark, Norway, and Sweden, which have a four-mile limit; Chile, Turkey, and Uruguay with a five-mile strip; and France, Spain, and Portugal, having a six-mile belt. Greater limits are also defined in some treaties made between the United States and other nations to control smuggling, piracy, and slave trading.

Many nations enforce laws relating to smuggling, neutrality, fishing, sanitation, and navigation as far as 16 miles from their shores. The distances in connection with the President's proclamation define a new scale in offshore underwater territorial jurisdiction.

Operations for the recovery of minerals beneath the sea have been carried on for many years, but distances from the shore have been within or have not greatly exceeded the three-mile limit. One California oil company has tapped ocean wells which, at low tide, are about a third of a mile from the shore. The workings of a Nova Scotia coal mine reach more than three miles under the sea. Newfoundland's Bell Island "submarine" iron mine has been pushed out three miles beneath the sea floor.

Note: See "Our Global Ocean," in the *National Geographic Magazine* for January, 1945.

Bulletin No. 4, November 5, 1945.

Drawn by Irwin Alleman

DELICATE SHADING OF THE ATLANTIC FLOOR SHOWS CONTINENTAL SHELVES, SUBMARINE MOUNTAIN RANGES, AND DEEP BASINS

Along the borders of the continents, projections under shallow water extend to the ocean proper. Those portions of the continental shelf off United States coasts are now legally part of United States territory. Hudson Canyon splits the shelf off New Jersey.

town of 6,600, where the President visited the Pemiscot County Fair.

The shocks which remolded the face of the earth began on December 16, 1811, and continued in varying violence well into February of 1812. During the upheavals the Mississippi overflowed its banks, and the flood waters poured into the great depression left by the quakes.

Floods occasioned by the convulsions partly demolished the river settlement of New Madrid—established by Spaniards—and heavily damaged Caruthersville, then a community of a hundred families. The people fled to higher ground.

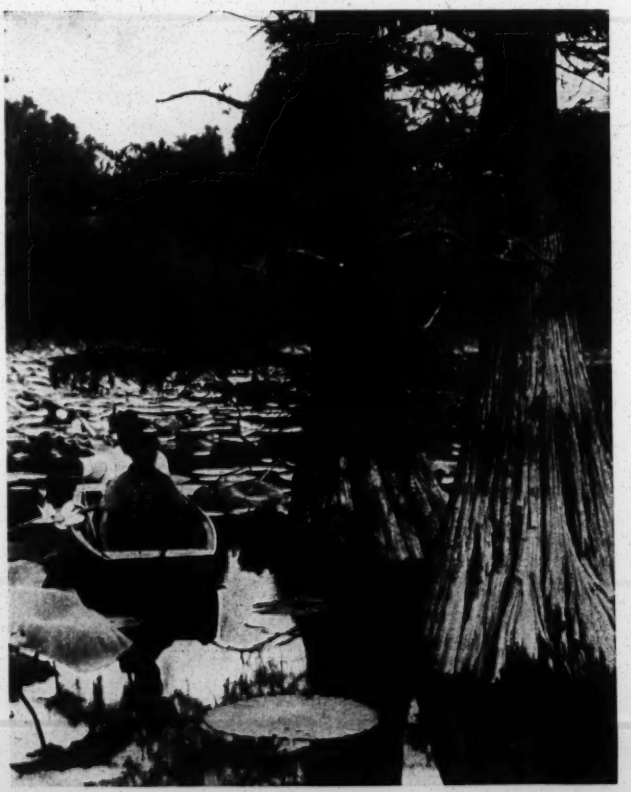
An Indian version of the formation of the lake says that it lies where the Great Spirit stamped his foot in anger at Reelfoot, a Chickasaw chief, who had defied him by stealing a wife from a neighboring tribe. At the Great Spirit's bidding, the Father of Waters rushed over Reelfoot's country. The chief, according to this tale, lies at the bottom of his namesake lake, along with his bride and his people.

Reelfoot Lake teems with fish. The biggest is the alligator gar, some of which attain a length of eight feet. Another sizable variety is the spoonbill catfish. Game fish—such as crappie and bass—are plentiful.

Hunters and trappers, as well as fishermen, have long been attracted to the lake. It is a regular way-station for ducks and geese following the north-south migration route.

Other feathered visitors include water turkeys or cormorants, coots, white herons, rail birds, and bittern. Much of the wild life is dressed in furs—mink, muskrat, weasel, otter, opossum, and raccoon. The washtub-size alligator terrapin is one of the most distinctive lake dwellers.

Yoncopin lily pads bearing gorgeous yellow flowers dot the surface. Saw grass and wild rice have spread rankly along the banks. Cypress and southern swamp timber—festooned with vines—grow in the shallow water.



A. W. Stevens

CYPRESS AND LILIES ALMOST COVER REELFOOT LAKE

This shallow near-swamp in northwest Tennessee conceals many dead cypress stumps just below the surface. In order to see and avoid these obstacles, local oarsmen face the bow of their rowboats. A simple device reverses the action of the oars so that the vessel goes forward. This boat is approaching the camera.

Note: For additional information, see "Reelfoot—An Earthquake Lake in Tennessee," in the *National Geographic Magazine* for January, 1924.

Bulletin No. 5, November 5, 1945.

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